ARNOLD ARBORETUM
HARVARD UNIVERSITY

FLORICULTURE

BULLETIN
OF POPULAR INFORMATION

SERIES 4. VOL. IV MAY 9, 1936 NUMBER 7

THE FLOWERING CRABAPPLES

AT THIS TIME of year in New England and New York, the flowering crabapples are in full bloom. Collected from widely segregated places in the northern hemisphere, nurserymen in this country are able to offer over fifty of them to the public. Generally, they can be grown wherever the common apple does well as far as hardiness is concerned, and, though subject to similar apple troubles such as borer and scale, they are an asset to any garden. The sizes and shapes of the twenty-six different crabapples listed in this bulletin differ greatly.

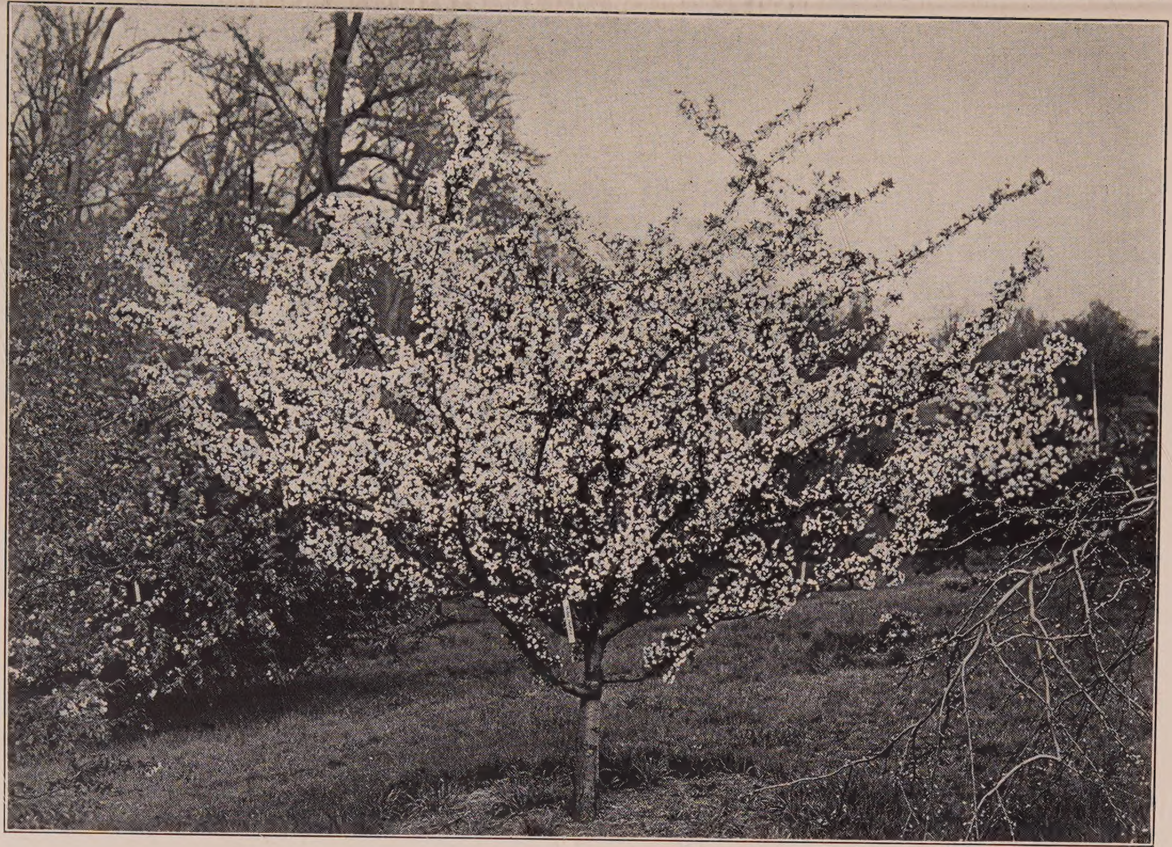
Malus baccata mandshurica is not only the first to bloom, starting this year while the Japanese cherries were still in flower, but is also the tallest, growing to fifty feet or more. On the other hand, *Malus Sargenti* is the smallest, often growing twice as broad as it does high and seldom becoming over 8 feet tall. This might be the best crabapple for the small home garden where space is the limiting factor. Unfortunately, nurserymen often grow it from seed which has not been collected from pure stands, resulting in trees that do not have the typical low-growing habit but are much more upright. Since there are few, if any, pure stands in this country, grafting might better be resorted to in order to insure the typical form. The rest of the flowering crabapples range in height from 15 to 30 feet, the majority of them being 15 to 25 feet tall. Some, like *M. Halliana Parkmani*, rarely exceed 15 feet, while others like *M. ioensis plena* and *M. floribunda* may attain 30 feet. Some of the varieties, like *M. prunifolia rinki*, are upright and spreading in habit of growth; others, like *M. floribunda* and *M. arnoldiana*, are generally mound-like in appearance. The most picturesque in habit is the tea crab, now called *M. hupehensis*, but listed in nursery catalogues as *M. theifera*. The main branches, originating from the trunk, are long with few side branches, appearing from a distance somewhat like a huge fan.

Like the common apples, the flowering crab has a strong tendency to be alternate bearing, that is, fruit production is poor one year but good the next. Though this may not be particularly noticeable in the flowering, it is very noticeable and often disappointing in the fruiting habits. For instance, the best fruiting tree in the group at the Arboretum (*M. toringoides*) was marvelous in fruit during the fall of 1934, but last year, even the largest plant was uninteresting because of few fruits.

The Asiatic crabapples (see table) are the first to bloom, followed shortly afterwards by the native species. The flower display lasts about a week, but, of course, depends entirely upon the weather, and this year is somewhat advanced because of the recent unusual warm spell. When this issue of the Bulletin reaches its readers the crabapples will be in full bloom at the Arboretum. Some years when the weather is particularly cool the beauty of these plants is prolonged, for some of them as, for instance, *M. hupehensis* (*M. theifera*) are often considered more beautiful when the flower buds are fully advanced but not open, than when they are in full bloom. In extremely hot weather plants may drop their petals two or three days after the flowers expand.

In new England and parts of New York, the past few winters have demonstrated that it is not worth while to count on the hardiness of the double-flowered Japanese cherries. Garden lovers in general should realize that the crabapples are considerably hardier and that there are also double-flowered forms (see table). Though these may not be considered as worthy substitutes for cherries, they can at least be counted on to bloom. The least hardy of all the crabapples is the Parkman crab, *M. Halliana Parkmani*, which was injured considerably during the winters of 1933 and 1934, both in New York and at the Arboretum.

The method of propagating these plants varies considerably. Many of the species can be easily grown from seeds, but in botanic garden collections, where a number of species are in close proximity, there is ample opportunity for cross polliniation; and it has been definitely proved that *M. Sargenti* when grown from seed thus collected does not give plants with the desired low-growing habit but rather plants with a more upright form. It is much safer to bud or graft all forms, obtaining buds or scions from stock plants with known characteristics. There is a confusion in the nomenclature of the crabapples in many nurseries today, simply because large scale production from seed has



Malus theifera = hupehensis

THE BEST FLOWERING CRABAPPLES (Malus)

Characters of	FLOWER		and		FRUIT		
	Single or Double	*Color*	*Landscape Value*	*Size in Centimeters*	*Color*	*Landscape Value*	*Year discovered or introduced—Remarks*
°M.angustifolia	S	light pink	good	1.5-2.5	yellow green	poor	Native; thorny
M.arnoldiana	S	pink	excellent	1	yellow	good	1883; Hybrid (floribunda x baccata)
M.atrosanguinea	S	deep carmine	excellent	1	dark red	good	1905; (Halliana x Sieboldi)
°°M.baccata mandshurica	S	white	excellent	1.2	yellow or red	good	1825
°M.coronaria	S	pink	excellent	3	green	poor	Native; thorny
M.coronaria Charlottae	SD	pink	excellent	3	green	poor	1900
°°M.floribunda	S	pink, fading white	excellent	0.6-0.8	red and yellow	good	1862
°M.glaucescens	S	pink	fair	3-4	pale yellow	poor	Native; thorny
°°M.Halliana Parkmani	D	bright rose	excellent	0.6-0.8	red purple	poor	1862; least hardy of all
M."Hopa Crab"	S	rose red	good	1.5-2	red	good	1920 (baccata x pumila Niedzwetzkyana)
°°M.hupehensis (M.theifera)	S	pink, fading white	excellent	1	greenish yellow, red cheek	poor	1900
°°M.hupehensis rosea	S	pink	excellent	1	greenish yellow, red cheek	poor	1900
°M.ioensis plena	D	pink	excellent				1888; often thorny
M.micromalus	S	pink	excellent	1-1.5	red or yellow	good	1856; Hybrid (baccata x spectabilis)
°°M.pumila Niedswetzkyana	S	red	fair	2	red	good	1891
°°M.prunifolia rinki	S	pink	excellent	2	yellow to red	good	1850; upright growth
M.purpurea	S	red purple	excellent	1	red	poor	1915; Hyb. (atrosanguinea x Niedzwetz.)
M.purpurea eleyi	S	vinous red	excellent	1	red	poor	1920
°°M.Sargenti	S	white	excellent	1	dark red	good	1892
M.Scheideckeri	SD	pale pink	excellent	1-1.5	yellow	poor	1882; Hyb. (spectabilis x micromalus)
°°M.Sieboldi	S	pale pink, fading white	good	0.6-0.8	red to yellowish	poor	1853
°°M.spectabilis	SD	pink	excellent	2	pale yellow	poor	1780
M.spectabilis albi-plena	D	white	excellent				
M.spectabilis riversi	D	pink	excellent				1872
°°M.toringoides	S	white	poor	1.1-2	yellow with red cheek	excellent	1904

°Species native to the United States.

°°"Asiatic Flowering Crabapples" native to Asia.

SD=semi double

resulted in many variations from true types.

Asexual reproduction naturally brings up the problem of understocks, which is by no means definitely settled. The American species are best grafted on seedlings of *M. ioensis* or *M. coronaria*. Both French crab seedlings and those of the various Asiatic species have proved successful for the Asiatic forms, especially *M. robusta*.

Crabapples are hosts of Juniper rusts, and the Arnold Arboretum has found the Asiatic species to be the least susceptible. There are places around Boston where Bechtel's crab becomes so disfigured with this disease that it is not grown. Bordeaux has been used in efforts at control but apparently the disease thrives on it. After several years of careful investigation, the Arnold Arboretum recommends the following for its perfect control on ornamental flowering crabapples: Use 5 to 6 pounds of "Linco", a colloidal sulphur spray produced by the Mechling Chemical Company, Canton, New Jersey, with 100 gallons of water with 3 pounds of "S. S. S.", a commercial "spreader" available at any store selling spray materials. Spray at first when the young leaves become visible and follow with four or five sprays at six to ten days intervals. Spraying just before a rain gives optimum results. To control chewing insects, add 4 pounds of lead arsenate to one of the later applications.

Plant Accessions. During the past summer, Mr. W. H. Judd spent considerable time visiting European nurseries with the object of adding to the living collections at the Arboretum. Due to his efforts over four hundred different species and varieties of living plants have been added to our collections this spring. Then, too, nurserymen in this country have been generous in sending the Arboretum specimens of new things so that additional plants from this source number over one hundred. Cuttings, scions and seeds, received from various sources this spring, will add still another hundred species and varieties to our collections. A list of the nurseries sending material is as follows:

Berlin-Dahlem Botanic Gardens, Berlin	4
L. Spaeth, Berlin	24
H. A. Hesse, Weener-Ems, Germany	126
V. Lemoine & Cie, Nancy, France	53
Vilmorin, Verrières, France	10
Moser & Sons, Versailles, France	14
Léon Chenault, Orléans, France	33
Hillier & Sons, Winchester, England	30
Royal Botanic Gardens, Kew, England	86
W. J. Marchant, Wimborne, England	13

Joseph W. Gable, Stewartstown, Pa.	10
New York Botanic Garden, New York	25
Bobbink & Atkins, Rutherford, New Jersey	1
Hugh Barclay, Narberth, Pa.	4
Boyce Thompson Institute, Yonkers, N. Y.	13
Bristol Nurseries, Bristol, Conn.	2
Linn County Nurseries, Center Point, Iowa	2
United States Department of Agriculture, Washington, D.C.	15
Wayside Gardens, Mentor, Ohio	1
Mt. Desert Nurseries, Bar Harbor, Maine	2
Princeton Nurseries, Princeton, N. J.	23
Dr. Emmet Rixford, San Francisco, California	12

Winter injury at the Arboretum this past winter has been surprisingly small. Though certain plants have been affected they normally suffer such injury every winter. It cannot be said that any plant or groups of plants have suffered here this past winter, other than the little normally expected. This may be partly due to the fine blanket of snow on the ground in the early part of the year, and the length of time it was effective. Even California privet and similar plants were not touched on the Arboretum grounds.

The Field Class announced by the Arboretum some time ago, meeting Saturday mornings in May, has met enthusiastic response. Over fifty people were on hand for the first meeting.

Plants now in full bloom at the Arboretum. This week and next the Arboretum is the most interesting of any time during the entire year because the most number of plants are in bloom. Most of the crabapples are at the height of bloom. Some Amelanchiers can still be seen here and there. Other plants in full bloom include Viburnum Carlesi, the various Cytissus, some of the Syringa Henryi varieties, Syringa oblata and its varieties, Caragana, Cercis canadensis and C. chinensis, Halesia species, Fothergilla, Daphne cneorum, some of the Spireas, the Pyrus group, Rhododendron schlippenbachi, Rhododendron yedoense poukhanense, Rhododendron obtusum Kaempferi and several others. Plants are looking in fine condition right now.

Lilac Sunday at the Arboretum will be May 17.

Donald Wyman